

REMARKS

Claims 27, 29, 31-36, 39-45, and 47-60 (of which claims 27, 31, and 33 are independent) are pending and rejected. Applicants request reconsideration and allowance of all pending claims in view of the following remarks.

Claims 27 (independent), 29, 34, 40, 42, 44, 45, 47, 48, 50, and 52 are rejected under 35 U.S.C. § 103(a) as obvious based on Sobolev, U.S. 5,030,488, in view of Mesek, U.S. 3,975,22, Otomine et al., U.S. 4,142,929, and Anderson et al., U.S. 3,684,637. The Examiner relies on Sobolev for disclosure of producing laminates having two metal sheets with a fibrous core made of metallic fibers and joined together by means of adhesive. The Examiner states that Sobolev does not disclose applying fibers and adhesive separately, but asserts that that would have been obvious so as to keep the fibers aligned in substantially parallel form, as per Anderson. Furthermore, the Examiner asserts that although Sobolev in view of Anderson does not yield the concept of applying adhesive in a pattern as specified in the claims, it would have been obvious to do so in view of Mesek teaching “applying lines or beads (22) of adhesive to an impervious sheet (12), as an alternative to a continuous later, to prevent excessive stiffness in the case if adhesive is applied as a continuous later, and also create substantial space in which air or liquid can pass through [.]” Additionally, the Examiner points to Otomine for its disclosure of “alternative methods of silk screening and spraying and adhesive layer to a metal foil . . . to form any complicated graphic to place the fibers on.” Applicants traverse this rejection.

As Applicants explained previously regarding Sobolev, Sobolev specifically refers several times to applying the resin/reinforcement **uniformly and/or evenly** across the sheet to which it is being applied. See, in particular, column 8, lines 36-38 (“Uniform deposition on the moving sheet is achieved by having the spray head traverse back and forth across the width of sheet 5 on an automatic reciprocator unit[.]”); column 8, lines 47-50 (“In tests with commercial airless medium-pressure spray equipment (500 to 700 psi at the pump discharge), the core mixture was deposited evenly and without any entrapped air[.]”); and column 17, lines 22-26 (“The freshly catalyzed resin mixture, prepared as described above, was then evenly spread on the bottom facing between the inserts, making certain that the top surfaces of the inserts

remained clean and dry[']”). Furthermore, Sobolev teaches that the resin composition itself should be changed to obtain the desired physical properties – not the geometric manner in which it is applied. See, for example, column 11, lines 6-25 and column 28, lines 55-64 and column 28, lines 55-64. Therefore, there would have been no reason (but for the Examiner’s hindsight-based desire to recreate the claimed invention) for one of skill in the art to have modified the geometric manner in which the adhesive/fibers are applied in Sobolev.

Regarding Anderson, as Applicants also explained previously, that reference is directed to making faux or simulated leather material. As such, Applicants submit, it would not even have been considered by one of skill in the art of making composite structural members of the sort countenanced by the present application and claims, i.e., where those structures have cover sheets made from steel, aluminum or any other metallic materials, or alloys, or ceramics, or any substances or mixtures containing those materials. In other words, Applicants submit, Anderson is non-analogous art.

Furthermore with respect to Anderson, the Examiner relies on it to support the assertion that applying the adhesive and the fibers separately would have been obvious in view of Anderson, so as to ensure that the fibers are kept parallel to each other. Apparently, however, the Examiner overlooked the fact that it is not the separate application of the adhesive and the fibers, *per se*, that ensures that parallel arrangement; rather, it is passage of the fiber-bearing web 40 past electrostatic field-producing grids 51 that causes the fibers “to arrange themselves and fall in substantially vertically parallel to one another array [.]” See column 3, lines 25-35 of Anderson.

Regarding Mesek, that reference is directed to making disposable diapers. (See, for example, the Abstract.) As such, Applicants submit, that reference, too, would not even have been considered by one of skill in the art of making composite structural members of the sort countenanced by the present application and claims, i.e., where those structures have cover sheets made from steel, aluminum or any other metallic materials, or alloys, or ceramics, or any substances or mixtures containing those materials. In other words, Applicants submit, Mesek is non-analogous art such that the disclosure therein of spaced-out application of adhesive (so as to prevent excessive stiffness to the baby wearing the diaper) would not have led one of skill in the relevant art to have similarly spaced out the adhesive/fiber mixture in Sobolev.

Further still regarding Mesek, the Examiner refers to the spaced application of adhesive as being for the purpose of providing spaces through which air or liquid can pass. Applicants have two responses to that presumed justification the Examiner seems to be offering for modifying the Sobolev structure. First, the Sobolev structures are specifically intended to be used as the wall panels for trucks; as such, they present no need for air or liquid to pass through them. Second, the Examiner apparently misunderstood Mesek's actual teaching. What Mesek states is that no portion of the polyethylene film should be more than two inches from a point of adhesion since, in the absence of such adhesion, the film will separate from the densified batting layer, thus undesirably creating "substantial spaces in which uncontrollably large amounts of liquid urine can accumulate." See column 8, line 64 through column 9, line 7. Thus, Mesek does not, in fact, teach one of skill in the art to space the adhesive so as to permit air and liquid to flow through the device (a diaper).

Regarding Otomine, that reference is similarly inapposite to the claimed invention. As its Abstract clearly and succinctly explains,

A process for manufacturing transfer sheets is disclosed in which short fibers are temporarily stuck to a base sheet to form a short fiber layer to which two kinds of adhesives are applied to a desired design or letter to be transferred. When the transfer sheet thus made is put on a clothes or the like and heat and pressure are applied, the short fibers are transferred to the clothes only where coated with the adhesive.

Thus, there is no plausible reason (again but for a hindsight-driven desire to reconstruct the claimed invention) that one of skill in the relevant art would have deigned to consider the Otomine reference because it is simply non-analogous art. In other words, the mere fact that Otomine discloses the application of adhesive in various discrete patterns and/or areas is, by itself, irrelevant to the claim-recited invention.

Thus, given these various deficiencies and the generally non-analogous nature of the references the Examiner has essentially cobbled together, Applicants traverse the rejection and request that it be withdrawn.

Claims 31 (independent) and 32 are rejected under 35 U.S.C. § 103(a) based on Sobolev in view of Barnes, U.S. 3,850,659. The Examiner relies on Sobolev for disclosure of

producing laminates with two metal sheets with a fibrous core containing metallic fibers. The Examiner admits that Sobolev does not teach fixing fibers by inductive stitch welding, but asserts that it would have been obvious to do so in view of Barnes' alleged disclosure of stitch welding. Applicants traverse this rejection because Barnes – even if it were, for the sake of argument, deemed to be analogous art (which it is not) – does not, in fact disclose inductive stitch welding.

As the application explains at paragraph [0113] (emphasis added),

a substrate is applied onto the first metal foil 1 into which the fibers 9 can easily penetrate during the flocking process so that they are fastened. At next the first metal foil 1 is inductively heated. By an appropriate selection of the conductivity of the substrate a specific heating of the transition between the first metal foil 1 and the fibers 9 is achieved so that both are welded to each other.

In other words, as denoted by the term “welded,” the two metal parts partially melt and fuse into each other.

In Barnes, in contrast, that is not what happens. In Barnes, adhesive is applied to wire hangers, which are then transported through a chamber that is filled with flock that flies around as air swirls within the chamber. The flock adheres to the adhesive, which is quickly dried to secure the flock to the hangers by inducing a current in the wire of the hangers. That current causes the wire to heat instantaneously, which thus dries the adhesive. See column 3, lines 14-25. Notably, the fibers are not welded to the hanger wire, since they are flock and therefore not even metal.

Thus, the asserted combination of references does not yield the claimed invention. Accordingly, the Examiner has not set forth a *prima facie* case of obviousness, so Applicants traverse the rejection and request that it be withdrawn.

Claims 33 (independent), 35, 54, 57, and 58 are rejected under 35 U.S.C. § 103(a) as unpatentable based on Sobolev in view of Mesek. The Examiner relies on Sobolev for disclosure of producing laminates comprising two metal sheets with a core containing adhesive and metallic fibers; the Examiner relies on Mesek (as is the case with respect to claims 33, etc., above) for disclosure of “applying lines or beads (22) of adhesive to an impervious sheet (12), as an alternative to a continuous later, to prevent excessive stiffness in the case if adhesive is applied

as a continuous later, and also create substantial space in which air or liquid can pass through [.]” Applicants traverse this rejection for much the same reasons set forth above with respect to claims 33, etc., i.e., Mesek is non-analogous art; the presumed justification for incorporating the supposedly relevant disclosure in Mesek into Sobolev does not pertain to Sobolev; and the Examiner apparently misunderstood the full teaching of Mesek in this regard. Accordingly, Applicants request that the rejection be withdrawn.

All other pending claims are dependent claims and therefore are deemed to be allowable for at least the reasons set forth above with respect to the respective base independent claims from which they depend. Accordingly, Applicants request that all other rejections be withdrawn.

In view of the foregoing, Applicants submit that all claims are in condition for allowance, and timely Notice to that effect is respectfully requested.

The undersigned representative requests any extension of time that may be deemed necessary to further the prosecution of this application.

The undersigned representative authorizes the Commissioner to charge any additional fees under 37 C.F.R. 1.16 or 1.17 that may be required, or credit any overpayment, to Deposit Account No. 14-1437, referencing Attorney Docket No.: 7589.182.NPUS01.

In order to facilitate the resolution of any issues or questions presented by this paper, the Examiner may directly contact the undersigned by phone to further the discussion.

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Respectfully submitted,

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